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1068-1077

AUTHOR: (8) Havaleshko, M. P.

TITLE: (6) Methods of measuring magnetic susceptibility

PERIODICAL: (15) Ukrayins'kyy fizychnyy zhurnal; v. 7, 10, 1962.  
(1068-1077)

TEXT: A detailed description is given of the principal elements of a new measuring installation, especially of the weighing system. The installation is an improvement of that described by W. G. Henry and J. L. Rogers (Phil. Mag., v. 1, no. 3, 1957). The electromagnet has pole ends of special form securing two domains with small field gradient along the specimen, but they are not necessary since the position of specimen does not change during the measurement. Susceptibility can be measured between 77 and 1000°K, and the results are recorded by an ЭПН-09 (EPP-09) automatic recording potentiometer. The temperature range can be extended to 1300°K by placing the specimen in a quartz ampoule instead of a glass one. It is necessary to know the length and the mass of the specimen; the cross-section

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Methods of measuring ...

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area is required only for the correction factor due to presence of air, etc. Conductivity, thermal e.m.f. and the Hall effect can be measured with the same installation. Values of susceptibility obtained by the author for various substances are compared with those given by other authors. The total error does not exceed 1%, the contribution of the error in determining the field intensity being the largest. The sensitivity is of the order of  $10^{-11}$  cgs susceptibility units per gram. There are 5 figures and 1 table.

ASSOCIATION: Chernivets'kyi derzhuniversytet (Chernivtsi State University)

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